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PLANT IND

PLANT IMMIGRANTS.

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Foreign Seed and Plant Introduction.

EXPLANATORY NOTE.

This multigraphed circular is made up of descriptive notes furnished mainly by Agricultural Explorers and Foreign Correspondents relative to the more important introduced plants which have recently arrived at the Office of Foreign Seed and Plant Introduction of the Bureau of Plant Industry of the Department of Agriculture, together with accounts of the behavior in America of previous introductions. Descriptions appearing here are revised and published later in the INVENTORY OF PLANTS IMPORTED.

Applications for material listed in these pages may be made at any time to this Office. As they are received they are placed on file, and when the material is ready for the use of experimenters it is sent to those on the list of applicants who can show that they are prepared to care for it as well as to others selected because of their special fitness to experiment with the particular plants imported. Do not wait for the annual catalogue entitled NEW PLANT INTRODUCTIONS which will be sent you in the autumn and in which will be listed all plants available at that time. Regular requests checked off on the check list sent out with the catalogue are not kept over from year to year. If you are especially interested in some particular plant in the catalogue write and explain in detail your fitness to handle it.

One of the main objects of the Office of Foreign Seed and Plant Introduction is to secure material for plant experimenters, and it will undertake as far as possible to fill any specific requests for foreign seeds or plants from plant breeders and others interested.

David Fairchild,

Agricultural Explorer in Charge.

April 19, 1919.

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Brosimum alicastrum (Moraceae), 46725. **Bread-nut tree.** From Cuba. Presented by Mr. Mario Calvino, Director, Agricultural Experiment Station, Santiago de las Vegas. "Seeds of the **Ramon de Mejico.** It is a fine shade tree; and it is also an economic plant, for its leaves are eaten by cattle and its seeds are eaten readily by pigs." (Calvino.)

"Dr. Lavedan of New Orleans, La., considers that the seeds, which are produced in great abundance, might be utilized as a source of industrial starch, or perhaps distilled into alcohol. I have assured him that we would be interested to test the possibilities of growing this tree, at least in southern Florida." (O. F. Cook, Bureau of Plant Industry.)

Carica sp. (Papayaceae), 46761. **Papaya.** From Colombia. Seeds presented by the Minister of Agriculture, Bogota. Said to be a wild variety of **papaya** from the tropical parts of Colombia. Judging from the seeds, this is the same species as that (S. P. I. No. 41339) secured by Mr. O. F. Cook at Ollantaytambo, Peru.

Cereus sp. (Cactaceae), 46721. **Night-blooming cereus.** From Colombia. Presented by Mr. W. O. Wolcott, Medellin. "A species of **night-blooming cereus** which has an immense, blood-red flower the size of a saucer. It opens only at night. The plant climbs on walls or any other support. "(Wolcott.)

Cereus sp. (Cactaceae), 46722. **Pitalla.** From Colombia. Presented by Mr. W. O. Wolcott, Medellin. "A cactus called **pitalla,** pronounced pee-tah-ya. The fruit grows as large as a good-sized potato and is covered with warts about one-fourth of an inch high. The inside pulp has a wonderful flavor and is very fine eating." (Wolcott.)

Citrus miaray (Rutaceae), 46732. **Miaray.** From Philippine Islands. Seeds presented by Mr. P. J. Wester, Agricultural Advisor, Department of Mindanao and Sulu. "With its willowy, slender, drooping branches and dense crown of dark green foliage, the **miaray** is an exceedingly handsome ornamental tree. The fruit is about the size of a lime, usually growing singly in the axils of the leaves. It is pleasantly acid and may be used like the lime. The clean, vigorous growth of the tree indicates that it is likely to prove a desirable stock for other cultivated varieties of citrus fruits." (Wester.)

Citrus webberii (Rutaceae), 46733. **Calpi.** From Philippine Islands. Seeds presented by Mr. P. J. Wester, Agricultural Advisor, Department of Mindanao and Sulu. "A shrubby tree with small, sharp spines. It has oblong-ovate, shining, dark green leaves and white, solitary, sweet-scented flowers. The oblate fruits, 2 inches long by 2½ inches wide, are lemon-yellow and have a thin skin, often loose like a Mandarin orange. The flesh is whitish to grayish, very juicy and aromatic, with less rag perhaps than any other citrus fruits ever examined by the writer. The trees have a long flowering season, as fruits are offered in Manila throughout the summer to late autumn." (Wester.)

Corynocarpus laevigata (Corynocarpaceae), 46764. **Karaka** From Honolulu, Hawaii. Presented by Mr. C. S. Judd, Superintendent of Forestry, Board of Commissioners of Agriculture and Forestry. "Seeds of the **karaka** tree of New Zealand. This tree was introduced into these islands in 1878 when Mr. Francis Sinclair sent the seed of it from Auckland to Mrs. Valdemar Knudsen, who planted it at Halemanu, Kauai, Hawaii, at an elevation of 3,500 feet above sea level. The tree has thriven, and forms a dense forest cover. It is considered a valuable addition to our list of water-conservation forest trees. The tree is not very long-lived but perpetuates itself by abundant reproduction. The wood is soft and the foliage is relished by stock." (Judd.)

Crotalaria sp. (Fabaceae), 46735. From Philippine Islands. Seeds presented by Mr. P. J. Wester, Agricultural Advisor, Department of Mindanao and Sulu. "An annual plant up to 75 cm. (2½ ft.) tall, with curious, rather attractive sepals that remain for many weeks. An interesting subject for a plant breeder of ornamentals. Native of Mindanao at an altitude of 400 to 700 m. (1,300 to 2,300 ft.)" (Wester.)

Cucumis melo (Cucurbitaceae), 46726. **Muskmelon** Grown at the Plant Introduction Field Station, Chico, California. "Seeds of an Armenian melon. It is a good bearer and the fruits weigh from 15 to 20 pounds. The skin is rough and greenish yellow in color. The flesh is white, solid and firm, and very sweet. No doubt it would make a good keeper for late use." (R. L. Beagles.)

Cucumis melo (Cucurbitaceae), 46728. **Muskmelon.** From Peking, China. Presented by Dr. Yamei Kin, who secured them from Mr. H. L. Yang, Peking University.

"Seeds of a small white melon that is very prolific and whose flesh is as fine-textured, though not so highly flavored, as the honey dew." (Kin.)

Dolichos lablab (Fabaceae), 46729. **Hyacinth bean.** From Peking, China. Presented by Dr. Yamei Kin, who secured them from Mr. H. L. Yang, Peking University. "Seeds of the Manchurian green bean which goes by the name of 'old woman's ear', probably because it is very much broader and flatter than the common string bean. It is noted for its maturing qualities, not being ready till the latter part of August and getting better with the cool autumn till the hard frost kills it. It also makes a delicious salt pickle and might be good for the salt-preserving method advocated by the Department. The bean itself is also eaten, but it is said to be better green with the pod like a string bean." (Kin.)

Entelea arborescens (Tiliaceae), 46749. **New Zealand cork.** From New Zealand. Presented by Mr. J. W. Poynton, Palmerston North. "Seeds of the **whaw** tree whose wood is but little more than half the weight of cork. Its distribution is very limited, as it is found only in isolated localities in the North Island and in one small area in the South Island. The seed vessels are very tough and are entirely surrounded by sharp needle-like spines which keep off birds and insects. The tree is very pretty, with a large, maple-like evergreen leaf and a pretty white flower. It grows to a height of 25 feet. It does not stand severe frosts, so should be sown only in the southern States." (Poynton.)

Enterolobium sp. (Mimosaceae), 46744. From Bahia, Brazil. Presented by Mr. H. M. Curran. "Seeds of a species of Enterolobium much like *E. saman*, but of dry regions. It is a handsome umbrella-shaped shade tree for Texas and California." (Curran.)

Euterpe oleracea (Phoenicaceae), 46743. **Assahy.** From Para, Brazil. From Mr. J. Simao da Costa. "Seeds of a graceful, ornamental palm. The fruits contain hardly any oil and are made into a beverage, and also into ice cream." (da Costa.)

Ficus sp. (Moraceae), 46736. From Philippine Islands. Seeds presented by Mr. P. J. Wester, Agricultural Advisor, Department of Mindanao and Sulu. "**Kalapat.** A small tree, used for live fence posts in

Bukidnon, Mindanao, at an altitude of 400 to 700 m. (1,300 to 2,300 ft.). The fruits which are bright red, and of about the size of small cherries are produced in great profusion in the axils of the leaves, and remain on the tree a long time,- making this a very handsome ornamental. Likely to thrive in the very mild regions of the United States." (Wester.)

Lysiloma sabicu (Mimosaceae), 46762. **Sabicu.** From Cuba. Presented by Dr. Mario Calvino, Director, Agronomic Experiment Station, Santiago de las Vegas. A Cuban tree having bipinnate leaves with small, obliquely obovate leaflets. The flowers are in small, globular heads; and the fruits are thin, flat pods. The tree is of great value for its dark-colored wood which is very heavy and extremely hard and durable,- making it valuable in shipbuilding. (Adapted from Lindley, Treasury of Botany, p. 704.)

Merremia sp. (Convolvulaceae), 46737. From Philippine Islands. Seeds presented by Mr. P. J. Wester, Agricultural Advisor, Department of Mindanao and Sulu. "**Burakan.** A perennial, climbing vine of vigorous growth which is bronze-colored when young. It has very large leaves, sometimes exceeding 20 cm. (6½ in.) in width, and white flowers. The vine is used for basketry, and in southern Florida would make a good ornamental. It is a native of Mindanao up to an altitude of 650 m. (2,130 ft.)." (Wester.)

Orania palindan (Phoenicaceae), 46738. **Palm.** From Philippine Islands. Seeds presented by Mr. P. J. Wester, Agricultural Advisor, Department of Mindanao and Sulu. "**Banga.** A tall, unarmed palm, native of the interior of Bukidnon, Mindanao, growing at altitudes ranging from 300 to sometimes exceeding 500 m. (980 to 1,640 ft.). The trunk is straight and remarkably uniform in diameter, this rarely exceeding 18 cm. (6 in.). The leaves are pinnate and silvery beneath. The trunk of the mature palm is straight-grained, easily split, and durable, and is used by the natives in making floors, fences, etc. An attractive ornamental." (Wester.)

Persea americana (Lauraceae), 46624. **Avocado.** From Ecuador. Collected by Dr. J. N. Rose, Associate Curator, National Herbarium, Washington, D. C. "Avocado from Ambato; fruit brownish to black but sometimes green or red, 2½ to 4 inches long. A fine fruit but small." (Rose.)

Rubus bogotensis (Rosaceae), 46765. **Blackberry.** From Colombia. Presented by Mr. M. T. Dawe, San Lorenzo. "I am sending you today seeds of the large-fruited blackberry called **Mora de Castilla** which grows at 3,300 m. (10,835 ft.) altitude on the Central Cordillera." (Dawe.) See S. P. I. No. 45365 for previous introduction.

Schrankia leptocarpa (Mimosaceae), 46719. From Bahia, Brazil. Presented by Mr. V. Argollo Ferrao. "Seeds of a wild sensitive plant that might be good for pasture for goats and sheep. It is a strong-growing small shrub, with the spines very much reduced, as compared with those of the common sensitive plant. The seeds are protected by a spiny fruit. The plant is not easily found as the cattle eat it back closely. It grows in good soil and is found in low ground near rivers and small streams." (Argollo Ferrao.)

Solanum sp. (Solanaceae), 46730. **Potato.** From Tucuman, Argentina. Presented by Mr. E. F. Schultz, Horticulturist, Agricultural Experiment Station. "Tubers of the **oca** wild potato. Although I do not think that this will be able to compete with the common cultivated potato, it may prove useful in some places, such as the high mountain ranges in California, as well as in some parts of the Hawaiian Islands and the Philippines." (Schultz.)

Trichosanthes sp. (Cucurbitaceae), 46739. From Philippine Islands. Seeds presented by Mr. P. J. Wester, Agricultural Advisor, Department of Mindanao and Sulu. "**No. 1.** A cucurbitaceous climbing vine with attractive foliage and roundish oblong fruits somewhat larger than a goose egg. The bright red color of the fruits is retained for several weeks and is highly decorative. Found at an altitude of about 600 m. (1,970 ft.) in the interior of Mindanao." (Wester.)

Triticum durum (Poaceae), 46766. **Wheat.** From Johannesburg, South Africa. Purchased from Mr. J. Burtt-Davy, Agricultural Supply Association. "**Golden ball.** A durum wheat; not so good a yielder as 'Oude baard,' but more drought-resistant." (Burtt-Davy.)

Triticum spp. (Poaceae), 46767 & 46768. **Wheat.** From Johannesburg, South Africa. Purchased from Mr. J. Burtt-Davy, Agricultural Supply Association. "Two varieties

of wheat from the Calvinia Division of the Cape Province. These wheats are grown under irrigation in soil which contains a good deal of both sodium carbonate and sodium chloride. They may have developed local peculiarities quite different from any possessed by American wheats." (Burtt-Davy.)

Tropaeolum tuberosum (Tropaeolaceae), 41185 & 41186. **Anyu.** From Peru. Collected by Mr. O. F. Cook on his 1915 South American trip. "One of the Andean root-crops generally cultivated in the potato-growing districts of the plateau region of Peru. Though apparently less popular than the oca and ullucu, the **anyu** has one important advantage over all the Peruvian root-crops, including the potato, in its keeping qualities. Specimens, collected in the district of Sicuani on April 9, were kept for three months at Ollantaytambo, and then brought back to Washington, and were still in good condition the middle of September. This means that the **anyu** tubers would be very easy to handle commercially in case they should prove to be of use in the United States. In Peru they are eaten like potatoes, papa lisas, and ocas, chiefly in the form of soups. The **anyu** plant is a rather close relative of another Peruvian species, *T. majus*, a familiar ornamental cultivated in the United States under the name,'Nasturtium'. Hybrids between these two species might be of interest as affording a possibility of securing ornamental varieties that could be propagated from tubers. The flowers of *T. tuberosum* are not so large as those of *T. majus* and do not open so widely but in other respects they are much the same. Experimental plantings of **anyus** should be made in the elevated districts in the southwestern states, and along the Pacific Coast. In comparison with potatoes, there appear to be very few varieties of **anyus.**" (Cook.)

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Office of Foreign Seed and Plant Introduction.
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